

TABLE 2.—Free-air resultant winds (meters per second) based on pilot balloon observations made near 7 a. m. (E. S. T.) during October, 1932—Continued

	Los Angeles, Calif. (217 meters)		Medford, Oreg. (410 meters)		Memphis, Tenn. (83 meters)		New Orleans, La. (25 meters)		Oakland, Calif. (8 meters)		Oklahoma, City, Okla. (402 meters)		Omaha, Nebr. (306 meters)		Phoenix, Ariz. (356 meters)		Salt Lake City, Utah (1,294 meters)		Sault Ste. Marie, Mich. (198 meters)		Seattle, Wash. (14 meters)		Washington, D. C. (10 meters)	
	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity	Direction	Velocity
Surface.....	10	1.1	73	0.3	227	0.6	39	1.9	21	2.4	216	0.8	331	0.7	98	1.6	145	1.6	33	1.1	132	1.0	321	1.1
500.....	39	1.8	6	0.1	254	3.2	52	3.1	10	4.6	220	2.1	264	1.5	86	2.5	338	0.9	205	4.5	307	3.8	307	3.8
1,000.....	51	2.6	265	0.4	256	4.2	37	0.6	20	5.4	254	5.5	279	4.5	68	2.2	286	2.4	212	5.6	293	8.1	293	8.1
1,500.....	42	2.3	241	0.2	269	4.7	338	2.2	360	3.6	265	3.9	287	6.7	96	1.1	166	2.6	274	5.2	222	4.5	284	9.9
2,000.....	10	2.4	340	1.7	278	4.1	327	2.6	347	4.2	263	5.3	282	6.4	184	1.3	232	1.4	280	7.3	268	2.5	290	10.0
2,500.....	5	2.2	339	3.6	253	1.6	298	2.4	357	5.4	265	5.9	276	8.1	230	2.1	277	2.3	277	10.1	313	3.0	281	9.6
3,000.....	356	2.8	320	4.6	276	1.6	246	1.8	13	3.9	264	7.0	279	8.9	227	2.5	300	4.6	282	10.6	282	7.2	282	7.2
4,000.....			312	5.6							269	8.1	303	8.5	248	5.3	297	6.7						
5,000.....																	309	11.6						

RIVERS AND FLOODS

By RICHMOND T. ZOCH

[River and Flood Division, Montrose W. Hayes in charge]

In October there were floods in the Atlantic Coast and East Gulf States and in Texas; those in Texas, however, may be considered a continuation of the September overflows which were mentioned in the MONTHLY WEATHER REVIEW of that month.

The most noteworthy of all the floods of both September and October were those in the lower Rio Grande Valley. The following summary concerning them has been furnished by the official in charge of the Weather Bureau office in Brownsville, Tex.:

Torrential and probably unprecedented rains in Val Verde and adjacent counties in Texas during the last two days of August and the first day of September, and heavy to excessive rains over the Rio Grande and tributary watersheds below Del Rio later in September and early in October caused destructive floods in the lower reaches of the Pecos and Devils Rivers, and in the Rio Grande from Del Rio, Tex., to the Gulf of Mexico. The floods began early in September and lasted well into October in the lower Rio Grande Valley.

Record-breaking crest stages occurred in practically all of the reach from Del Rio to Brownsville.

On account of a rather long and severe dry spell in southern Texas, occurring somewhat earlier than usual, few fall crops had been planted. This minimized the flood damage, but still the loss of property was enormous in the aggregate, and is conservatively estimated to have been more than \$2,500,000 on the American side of the river. In addition, 10 or 12 lives were lost.

The value of all classes of property, including levees, that was saved by the timely warnings and accurate crest stage forecasts is even more difficult to estimate, but would undoubtedly approximate \$500,000. Besides, at least some lives were saved.

The losses due to suspension of business appear to have been offset in a large measure by the employment the flood created for many people who otherwise would have been unemployed.

Table of flood stages in October, 1932

[All dates in October unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
Chenango: Sherburne, N. Y.-----	<i>Feet</i> 8	6	7	<i>Feet</i> 8.7	6.
Susquehanna:					
Oneona, N. Y.-----	12	6	8	14.7	7.
Bainbridge, N. Y.-----	11	6	8	13.0	7.
James:					
Columbia, Va.-----	18	18	20	27.3	18.
Richmond, Va.-----	8	19	20	14.2	19.

Table of flood stages in October, 1932—Continued

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE—CON.					
Dan:	<i>Feet</i>			<i>Feet</i>	
Danville, Va.-----	8	18	19	13.5	18.
Clarksville, Va.-----	12	20	20	14.3	20.
Roanoke:					
Randolph, Va.-----	18	18	20	28.9	19.
Weldon, N. C.-----	31	19	22	42.7	21.
Scotland Neck, N. C.-----	23	20	24	30.1	23.
Williamston, N. C.-----	9	26	31	11.2	28.
Cape Fear: Elizabethtown, N. C.-----	20	19	21	24.9	20.
Lynchess: Effingham, S. C.-----	14	23	25	15.3	24.
Peedee:					
Cheraw, S. C.-----	27	18	22	33.7	20.
Mars Bluff Bridge, S. C.-----	17	20	28	20.9	24.
Poston, S. C.-----	18	25	30	20.3	27.
Saluda:					
Pelzer, S. C.-----	6	16	19	11.0	17.
Chappells, S. C.-----	12	16	21	20.4	19.
Broad: Blairs, S. C.-----	14	16	19	27.8	18.
Congaree: Columbia, S. C.-----	15	17	19	21.7	19.
Catawba-Waterree:					
Catawba, S. C.-----	11	17	18	16.5	18.
Camden, S. C.-----	23	19	20	25.5	20.
Santee:					
Rimini, S. C.-----	12	18	27	18.9	22.
Ferguson, S. C.-----	12	20	31	14.0	23-24.
Jamestown, S. C.-----	12	26	31	16.1	30.
Savannah:					
Calhoun Falls, S. C.-----	8	17	17	11.6	17.
Ellenton, S. C.-----	14	18	24	22.7	21.
EAST GULF OF MEXICO DRAINAGE					
Black Warrior: Lock 10, Tuscaloosa, Ala.-----	46	17	20	61.4	18.
Tombigbee:					
Aberdeen, Miss.-----	34	18	22	37.4	19.
Columbus, Miss.-----	25	20	21	25.5	20.
Lock 4, Demopolis, Ala.-----	39	17	(1)	56.6	26.
Lock 3, Ala.-----	33	17	(1)	56.8	27-28.
Lock 2, Ala.-----	46	18	(1)	57.5	29.
Lock 1, Ala.-----	31	18	(1)	38.6	Nov. 1.
Chickasawhay: Enterprise, Miss.-----	20	18	19	20.9	18.
Pearl: Jackson, Miss.-----	18	20	31	23.2	28.
MISSISSIPPI SYSTEM					
Ohio Basin					
Pigeon: Newport, Tenn.-----	6	17	17	8.1	17.
French Broad: Asheville, N. C.-----	4	17	19	6.5	18.
Elk: Fayetteville, Tenn.-----	14	16	17	20.0	17.
WEST GULF OF MEXICO DRAINAGE					
West Fork: Fort Worth, Tex.-----	20	Sept. 5	Sept. 5	30.7	Sept. 5.
Trinity:					
Dallas, Tex.-----	28	Sept. 6	Sept. 8	34.0	Sept. 7.
Long Lake, Tex.-----	40	Sept. 8	Sept. 9	41.3	Sept. 8.
Nueces:					
Cotulla, Tex.-----	15	Sept. 4	Sept. 12	27.0	Sept. 7.
Three Rivers, Tex.-----	35	Sept. 13	Sept. 16	39.6	Sept. 14.